The Groundwater Model Bill

Rethinking Regulation for the Primary Source of Water

PHILIPPE CULLET

Groundwater is now the main source of water for all major water uses in India and needs to be given greater policy attention. The fact that it is a politically sensitive topic because any reform will affect some powerful constituencies cannot be an excuse anymore for lack of action. Inaction only increases existing inequalities in access to groundwater by progressively reinforcing the power of bigger landowners at the expense of other water users. This article examines the basic principles governing access to and use of groundwater inherited from the past to the Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011, which provides a basis for rethinking groundwater regulation.

Philippe Cullet (*pcullet@gmail.com*) is a senior visiting fellow, Centre for Policy Research, Delhi and professor of International and Environmental Law, SOAS, University of London. He was also the convener of the Planning Commission's Sub-Group on Legal Issues Related to Groundwater that drafted the Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011.

Groundwater use in India has dramatically increased over the last few decades. It is now the backbone of India's food and drinking water security. Since 1970, an overwhelming majority (80%) of the total addition to the net irrigated area has come from groundwater ensuring that it accounts by now for around 60% of irrigation water use (Shankar et al 2011). Groundwater is also the source of about 80% of drinking water needs.[1]

The rapid increase in groundwater use has had negative impacts on aquifers in various parts of the country. Thus, by 2004, 28% of the country's blocks were showing alarmingly high levels of groundwater use.[2] In addition, many parts of India report severe water quality problems, causing drinking water vulnerability. Overall, nearly 60% of all districts in India have problems related either to quantitative availability or to quality of groundwater or both (Planning Commission 2011).

The tremendous increase in groundwater use has led to a situation where it is now the most crucial source of water for the realisation of the fundamental right to water. This simple fact implies that the use and protection of groundwater needs to be given much more attention in law and policy terms. This requires a major effort since until a few decades ago water laws were primarily conceived as surface water laws.

For a variety of reasons, there has been relatively little attention to groundwater regulation until recently. This lack of focus on the basic framework governing groundwater use and protection is particularly problematic because the existing groundwater legal framework is structured around an outdated, inequitable and environmentally unsustainable principle that essentially links control over groundwater to landownership.

The limitations of this scheme have been recognised for several decades but little change has been introduced either through case law or legislation. This is in part due to the fact that the rapidly increasing reliance on groundwater in many parts of the country has led to a situation where state governments realised that they could avoid tackling an increasingly bleak reality by fostering groundwater mining. Yet, this purposeful policy inaction has now shown its social, environmental and economic limits. The existing status quo is untenable in the long term because it leads to further deterioration of the resource on a yearly basis.

Groundwater regulation of the future needs to be based on the recognition that it must be available primarily for meeting needs related to the fundamental right to water, as well as ecosystem and livelihood needs. The existing legal framework that essentially hands control over groundwater to landowners is unacceptable because it does not recognise the claims to groundwater of all other individuals in the country, and because it precludes any aquifer-wide regulation of groundwater.

This article starts by examining the basic principles governing access to and use of groundwater inherited from the past and the partial reform framework proposed since 1970s. The second section brings out some of the key shortcomings of the existing legal framework. Finally, the third section examines the latest model available for reforming groundwater regulation, the Planning Commission's Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011.

1 Groundwater Regulation

The existing legal framework governing groundwater is based largely on principles developed during the second part of the 19th century and applied more or less consistently until today. Groundwater regulation is characterised by the

fact that courts have played a leading role in shaping the rules that apply today.

1.1 Rules Giving Landowners Full Control over Groundwater: Basic rules governing access to and use of groundwater in India were laid down in English decisions in the second half of the 19th century. Since judges developed this area of the law, this should have given it ample scope for changing over time in line with changing circumstances and understanding of the science underlying the rules in place. Yet, with a few exceptions, the case law to date has not moved beyond the basic principles laid down in another country, for different climatic conditions, and at a point in time when the connections between surface and groundwater were not well-understood. The legislative framework, while underdeveloped in this area, has further contributed to stagnation. Indeed, the only direct reference to groundwater rights in the legislative framework is found in the Indian Easements Act, 1882 that simply confirmed the principles developed in English case law.[3]

The first basic principle applying to groundwater is that it should be treated differently from surface water. This was asserted in *Chasemore vs Richards* where the court determined that groundwater that percolates through underground strata, which has no certain course, no defined limits, but which oozes through the soil in every direction in which the rain penetrates is not subject to the same rules as flowing water in streams or rivers.[4]

Once the distinction between the different bodies of water was made, it became possible for courts to define a different set of rights applicable to groundwater. These were not derived from the existing rules for surface water that imposed significant restrictions on the powers of landowners to appropriate water flowing past their land. The case law subsequently gave landowners virtually limitless control over groundwater. In *Acton vs Blundell*, the court found that the person who owns the surface may dig therein and apply all that is found there to his own purposes at his free will and pleasure; and that if, in the exercise of such right, he intercepts or drains off the water collected from underground springs in his neighbour's well, this inconvenience to his neighbour falls within the description of *damnum absque injuria* (damage without injury), which cannot become the ground of an action.[5]

This was confirmed in *Chasemore vs Richards*, which found that the right of the owner of a mill using spring water had no action against other landowners abstracting groundwater to the extent of affecting his own use of the water. This was because the judges determined that such a right would "interfere with, if not prevent, the draining of land by the owner".[6] One of the few limitations to have been placed on the rights of landowners concerns the case where groundwater cannot be accessed without touching surface water in a defined surface channel. In this case, the landowner is then barred from accessing it.[7]

The general rules mentioned above did not apply in all situations. Indeed, the case law of the 19th century made a distinction between percolating groundwater and groundwater flowing in defined channels – where groundwater was found to flow in defined channels, the rules applicable to surface water would also apply. This meant that the right of the landowner was then limited to use and consumption for household and drinking purposes, for watering their cattle and for irrigating their land, or for purposes of manufacture, provided that the use was reasonable, that it was required for their purposes as owners of the land, and that it did not destroy or render useless or materially diminish or affect the application of the water by riparian owners below the stream in the exercise either of their natural right or right of easement, if any (Katiyar 2010).

The application of the concept of defined channel to groundwater proved to be difficult because until the past few decades it was not easy to ascertain the existence of underground defined channels. In the early part of the 20th century, case law was no more specific than requiring "a fairly defined course", but this did not even need to be confined within banks or have a continuous flow,[8] thus making it difficult to apply to groundwater. Yet, in some cases, the concept of defined channel has been applied to groundwater: First, in the context of a river running a few inches below its natural bed in the dry season, judges determined already in 1930 that "it was safe to say" that the water flowing down the riverbed had a defined course.[9] Second, in a case where a landowner had built an underground trench taking off from a point 14 feet away from the outlet of a spring, it was held that while this was not the actual water of the spring, "there can be little doubt that there must be a direct channel between the top of the drain and the outlet" and there was thus no need for the channel to be "known" through excavation to apply the rules concerning defined channels.[10]

The application of the concept of defined channel to groundwater leads to several conclusions: First, it confirms that judges were from the start ambivalent about the legal status of groundwater. Second, the cases applying the concept of defined channel can be seen as confirming that when a flow of groundwater could be identified, judges were not averse to restricting the rights of landowners over groundwater. Third, the concept of defined channel has not proved to be an appropriate basis for triggering a reform of groundwater rights.

On the whole, the rules highlighted here are at the very least outdated. Yet, the surprising element is the very limited evolution that has taken place over the past one and a half century. Indeed, while it was probably reasonable to expect that by the beginning of the 20th century a commentary on easements would be based on the cases cited here (Peacock 1904), it is much more surprising to find that a leading commentary on easements published in 2010 still cites the same cases as being the most authoritative statements of the law today (Katiyar 2010).

1.2 Limited Reforms since 1970: The need for reforms of groundwater law has been felt for decades and, at the very least, since the widespread introduction of mechanised pumping devices led to rapidly increasing groundwater use and

lowering water tables. This led the Government of India to acknowledge the need for a statutory framework governing groundwater. As a result, starting in 1970, it put forward a Model Bill to Regulate and Control the Development and Management of Ground Water (Model Bill, 1970/2005) for adoption by the states. This model bill has been revised several times (1992, 1996 and 2005) but the basic scheme adopted in 1970 has been retained.

The basic scheme of the Model Bill, 1970/2005 is to provide for the establishment of a groundwater authority under the direct control of the government. The authority is given the right to notify areas where it is deemed necessary to regulate and control the development and management of groundwater. However, while the respective state government takes the final decision (Model Bill 2005, s 5), there is no specific provision for public participation in this scheme. In any notified area, every user of groundwater must apply for a permit from the authority unless the user only proposes to use a handpump or a well from which water is drawn manually (ibid: s 6). Wells need to be registered even in non-notified areas (ibid: s 8). Decisions of the authority in granting or denying permits are based on a number of factors, which include technical factors such as the availability of groundwater, the quantity and quality of water to be drawn, and the spacing between groundwater structures. The authority is also mandated to take into account the purpose for which groundwater is to be drawn, but the model bill does not prioritise domestic use of water over other uses.[11] Basic drinking water needs are indirectly considered since, even in notified areas, hand-operated devices do not require a permit (ibid: s 6(1)).

2 Need for a New Framework

A number of reasons call for the adoption of new bases for groundwater regulation. First, the existing set of rules was never appropriate for the country where they were introduced. Second, the underlying legal framework has changed enormously since independence, as well as since 1970, requiring a rethink of groundwater regulation. Third, the importance of groundwater has increased tremendously since the introduction of mechanised pumping to the extent that it is the primary source of water for all main water uses.

The basic groundwater right framework outlined above, as well as the Model Bill 1970/2005, is not an appropriate framework for the regulation of groundwater in India in the 21st century. This is due to several reasons:

First, existing rules are based on a dated scientific understanding of groundwater. This fails, for instance, to take into account patterns of aquifer recharge and the interconnectivity between surface and groundwater (Soman 2008). This translates into separate rules for surface water and groundwater.

Second, the existing legal framework is not adapted to conditions prevailing in large parts of India. This was already noted in 1930 in a groundwater case where justice Wallace determined that "my considered view is that conditions in England are so different to those in the district of Bellary that I deprecate calling in aid English law on this subject and confess that I do not myself find it of any assistance here".[12]

Third, the present legal framework is socially inequitable. On the one hand, it gives landowners an overbearing power over groundwater; on the other, it excludes all landless groundwater users from the purview of the rules, even where groundwater is their main source of drinking and livelihood water.

Fourth, the existing legal regime limits itself at administering the respective claims of different landowners with no regard for the need to regulate groundwater at an aquifer level. The limitations of existing rules have come up in more specific contexts, like the division of a single plot of land. In a case involving the division of a piece of land where a single well was found in the part remaining with the original owner, the court found that in the absence of a clear stipulation providing for access to the well, the new owners had not acquired such a right.[13] The case focused entirely on the issue of the source of groundwater and landowners' claims to the same, rather than on the resource itself and the uses to which the groundwater might be put.

The Model Bill 1970-2005 and the Acts derived from it warrant the same criticisms since they do not go beyond the existing basic legal framework. The Model Bill 1970-2005 does attempt to set out a framework for addressing groundwater overuse. It does so by extending the state's control over the use of groundwater through the registration of sources of groundwater and the introduction of permits for groundwater extraction in regions where it is overexploited. Yet, this fails to effectively tackle existing overuse of groundwater since, in effect, it provides for the grandfathering of existing uses by only requiring the registration of such uses (Model Bill 2005: s 7). This implies that in situations where there is already an overuse, it does not provide an effective basis for controlling it and will, at most, provide a basis for ensuring that future use is more sustainable.

With regard to the proposed institutional framework, the Model Bill, 1970-2005 also fails to provide a set-up that is capable of addressing the various aspects of groundwater regulation. It neither provides a single institution with a general mandate to look after groundwater in all its dimensions nor provides mechanisms to ensure coordination between the different institutions that have a mandate or the capacity to address groundwater use and conservation, such as pollution control boards and groundwater authorities. Further, the framework

is intrinsically top-down in its approach and focuses on the establishment of a state-level institution.

3 The Groundwater Model Bill, 2011

The previous section has highlighted that the existing legal framework is incapable of addressing the challenges of groundwater use and conservation facing most states of the country (GOK 2011: para 21.52). This makes an unassailable case for reform in the context of the ever-increasing importance of groundwater for all main water uses. This has been recognised by the Planning Commission's approach paper for the 12th Five-Year Plan stating that "[t]here is an urgent need to come out with a clear legal framework governing the use of ground water".[14]

While the theoretical case for reforms seems clear, the reality is that states have been slow to take up the challenge. This can be explained by the fact that groundwater has become so crucial that it is politically difficult to challenge the various vested interests that have been created around the existing pattern of water use. This translates in practice in states subsidising access to groundwater infrastructure or subsidising the energy necessary to pump it into a way to avoid having to regulate existing uses.[15]

At the same time, in a number of states, the groundwater crisis is becoming serious enough to force states to start taking some action. Three different types of responses can be identified. First, in some cases the nexus between access to electricity and access to groundwater has been used to restrict groundwater use. This has, for instance, been done in Gujarat where electricity lines for irrigation and domestic consumption have been separated (e g, Shah and Verma 2008). Second, some states that are opposed to adopting comprehensive groundwater legislation have nevertheless started using regulation as a tool for controlling groundwater use. This is the case of Punjab and Haryana that have taken a limited but a real step in this direction with the adoption of a task-specific legislation focusing on prohibiting sowing and transplanting of paddy before specific dates in order to reduce groundwater use.[16] Third, some states have adopted legislation based on the limited reform framework of the Model Bill, 1970-2005.

The different answers given by states until now are noteworthy and important. They confirm that states are taking the groundwater challenge increasingly seriously. Yet, none of the three initiatives discussed in the previous paragraph provide a comprehensive solution that addresses groundwater use and protection in all its dimensions. The necessity for a broader approach stems from two issues: first, in a context where groundwater is the key source of water for realising the fundamental right to water of the overwhelming majority of the population, regulation cannot be only concerned with groundwater use for irrigation despite the importance of the latter. Second, existing policy interventions are based on the need to address groundwater scarcity but fail to provide bases for aquifer-based protection measures. There is thus a need for groundwater regulation that brings together the fundamental right to water dimension together with livelihood uses and protection of groundwater. In addition, from a legal perspective, the present groundwater framework does not reflect key judicial and constitutional developments of the past few decades.

In the context of an increasing recognition of the need for a new framework regulating groundwater, the Planning Commission took up the challenge of preparing a new groundwater model bill in the context of the preparation of the 12th Five-Year Plan. The Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011 (here onwards Groundwater Model Bill, 2011) provides a response to the shortcomings of the existing legal framework in the context of the fast increasing reliance on groundwater in most parts of the country.[17]

The basic premise of the Groundwater Model Bill, 2011 is that it is small farmers and all persons living in rural areas that are most directly affected by the existing framework that gives exclusive control over groundwater to landowners and no effective control to other groundwater users or democratically elected local bodies of governance. The Groundwater Model Bill, 2011 is thus based on the idea that while protection of groundwater is a key to the long-term sustainability of the resource, this must be considered in a framework in which livelihoods and basic drinking water needs are of central importance.

3.1 Basic Principles

The Groundwater Model Bill, 2011 finds its roots in existing constitutional and other legal principles, as well as existing laws in the water and related sectors. Thus, it is based on principles that have already been accepted in the legal fabric of the country. At the same time, it builds on developments that have taken place in the legal framework since the Government of India proposed the first Model Bill in 1970.

Public Trust and Subsidiarity: The Groundwater Model Bill, 2011 starts by recognising groundwater as a public trust (Groundwater Model Bill 2011: s 9). This brings the statutory regime in line with repeated Supreme Court directives concerning surface water,[18] and the one case mentioning groundwater.[19] This also ensures that groundwater and surface water will be in the future treated under similar legal principles, providing the basis for much better coordination between the different sectoral water laws in force.

The recognition that groundwater is a public trust is a significant change. Indeed, it bears the potential to give communities the possibility to regulate groundwater use at the aquifer level. In other words, the recognition that groundwater is a public trust does not diminish but rather enhances local control over the resource.

Some safeguards are, however, necessary to ensure that the change of legal status does not end up dispossessing local communities further. This is why the Groundwater Model Bill, 2011 links the recognition of public trust with decentralisation and the principle of subsidiarity.[20] It thus suggests that the trustee should

be the lowest possible democratically elected body that can regulate an entire aquifer. In other words, an aquifer situated entirely within a panchayat is under the direct control of the Gram Panchayat Groundwater Committee. It is only in case the aquifer is shared with another panchayat that control is shared and the Block Panchayat Groundwater Committee facilitates the coordination of the planning process between the panchayats sharing the aquifer (ibid: ss 18 and 20(1)b).

The link between public trust and subsidiarity is absolutely crucial and severing the two would negate the reform potential of the Groundwater Model Bill, 2011. Not linking the two would in effect hand over untrammelled power to the state government as the only trustee. This would amount to doing little more than rebranding the state's power of eminent domain as that of a trustee without creating effective new accountability mechanisms. Indeed, the only real check on the power of an all-powerful trustee would be the courts. This would not provide optimal results since court interventions do not provide quick results.

Fundamental Right to Water: The Groundwater Model Bill, 2011 starts by specifically integrating the fundamental right to water (ibid: s 8). This is a necessity in legal terms given the repeated strictures of the higher judiciary for the past two decades.[21] This is also necessary in practical terms given the prominence of groundwater as a source of drinking water.

The Groundwater Model Bill, 2011 ensures that the right to water is specifically integrated within its operational provisions. It starts by giving drinking water the highest priority among groundwater uses (ibid: s 10(2)). While this is uncontroversial, it is an important provision since there is no legislation that specifically confirms this priority implied in the recognition of the right to water by the courts.

The fundamental right to water framework for the Groundwater Model Bill, 2011 has broader consequences. Indeed, in a context where groundwater is the main source of water for 80% of individuals, control over the resource cannot be left entirely in private hands. This is again nothing new insofar as the very reason why actual ownership of surface water has been prohibited for centuries was the link between human survival and access to drinking water. Yet, in the context of groundwater, where the legal regime has condoned a form of an appropriation linked to land rights, this necessitates a process of adaptation.

At this juncture, the idea of delinking groundwater from land rights is gaining increasing support in policy circles. This is positive from the point of view of ensuring that individual property rights over land do not come in the way of the realisation of the right to water for all. At the same time, this process of delinking land rights and groundwater should not be used to set up new tradable groundwater entitlements. This is not a speculative concern, since the introduction of tradable water entitlements has already been given a statutory recognition in

some states.[22] The implementation of the Groundwater Model Bill, 2011 will, thus, need to be carefully tailored so that the positive impacts for the realisation of the right to water of severing the link between land rights and groundwater are not negated by these new private rights.

3.2 Institutional Framework

The institutional framework of the Groundwater Model Bill, 2011 reflects the decentralisation mandate of the 73rd and 74th amendments to the Constitution (Articles 243G and 243W). These amendments have already been used in generic terms in various states, for instance, to give panchayats powers over water resources at the local level. The Groundwater Model Bill, 2011 goes further and applies the decentralisation principles to groundwater regulation. As mentioned above, this is further strengthened by a specific reliance on the principle of subsidiarity.

The Groundwater Model Bill, 2011 organises its institutional framework around existing units of territorial governance. At the same time, in recognition of the fact that aquifers do not necessarily follow administrative boundaries, it provides mechanisms to ensure that the latter do not come in the way of effective protection of groundwater aquifers from the local to the state level.

The institutional framework is divided into rural and urban areas. In each case, the Groundwater Model Bill, 2011 provides for the setting up of groundwater committees starting at the lowest level of democratic governance. These are gram panchayat groundwater committees in rural areas and ward groundwater committees in urban areas (ibid: ss 17 and 21). The Groundwater Model Bill, 2011 also provides for block and municipal groundwater committees to address issues that cannot be tackled at a lower level. In the case of rural areas, this includes "[c]oordination of the planning process between panchayats sharing aquifers where the aquifer boundary does not correspond with boundaries of a single panchayat" (ibid: s 20(1)b). Further, it provides for the setting up of district groundwater councils tasked, for instance, with the coordination of measures taken at the block and municipal level and a state groundwater advisory council set up to provide advice and support to all groundwater bodies constituted under the legislation (ibid: ss 26(1)e and 28(1)).

The Groundwater Model Bill, 2011 also recognises that duplication of institutions and mechanisms should be avoided to the greatest possible extent. Thus, it uses to the extent possible existing institutions. For instance, at the panchayat level, it provides for the setting up of a gram panchayat groundwater committee but specifically provides that where a village water and sanitation committee already exists, the latter will automatically serve as groundwater committee (ibid: s 17(1)).

The Groundwater Model Bill, 2011 further recognises that it is unrealistic to expect every local institution to have the scientific and technical expertise necessary to perform all the given functions. As a result, a series of information and monitoring cells and supporting institutions are constituted to assist and help in the effective implementation of the Groundwater Model Bill, 2011. In an attempt to avoid the creation of additional capacity where it already exists, it is expected that these cells will draw on an existing institutional, scientific and technical capacity at all levels within the state, in particular the state groundwater department and its district offices or the state pollution control board and its district offices (ibid: s 29(2)). In addition, the state government can notify agencies constituted under the law that can assist and help effective implementation, such as the state groundwater department, the state pollution control board and the groundwater department (ibid s 30). All these supporting institutions are duty-bound to assist and help authorities as per their demands from time to time (ibid: s 31(1)).

3.3 Groundwater Protection Zones

The Groundwater Model Bill, 2011 is built around the need to ensure that the resource itself is protected and can provide a sustainable basis for meeting the basic needs of every person for decades to come. It thus integrates protection principles, such as the prevention and precautionary principles (ibid: s 6(2)).

The Groundwater Model Bill, 2011 introduces two innovative instruments to foster groundwater protection, groundwater protection zones, and groundwater security plans. These are conceived primarily for areas that suffer from groundwater depletion and are thus to be implemented according to the needs of specific areas.

The Groundwater Model Bill, 2011 first provides for the possibility to demarcate Groundwater Protection Zones. The objectives for the demarcation of groundwater protection zones link environmental and socio-economic aspects. Thus, groundwater protection zones are, for instance, demarcated to "[p]rotect the natural recharge and discharge areas of the aquifer from threats such as physical deterioration" and at the same time to "[p]rovide for sufficient quantity and safe quality water required to meet the basic water supply for human and animal needs" (ibid: s 11(1)a and d).

Groundwater protection zones are to be demarcated by a process that is in part driven by the state groundwater board in consultation with other relevant bodies. It ends with a submission to the "appropriate authority"[23] within which falls the geographical limit of each zone (ibid: s 12).

There exist two types of groundwater protection zones. Groundwater Protection Zones 1 are areas where no extraction or use of groundwater is allowed, apart from its use as basic water, except under special sanction by the appropriate authority (ibid: s 13 (3)). In these zones, the appropriate authority is mandated to develop and apply rules regarding, among others, forestation and deforestation, a prohibition of waste disposal of any kind and the banning of any mining lease. In Groundwater Protection Zones 2, a much less stringent set of rules is to be introduced, such as regarding distance to new wells and pumping regulation for existing wells (ibid: s 13(4)).

Groundwater protection zones are linked to another innovation – the introduction of groundwater security plans. Section 14 provides that a groundwater security plan shall be prepared at the lowest possible administrative level that encompasses the whole aquifer. Groundwater security plans are compulsory where a groundwater protection zone

has been defined and their preparation is left to the discretion of the appropriate authority in other cases (ibid: s 14 (3)). Groundwater security plans must "provide for groundwater conservation and augmentation measures, socially equitable use and regulation of groundwater, and priorities for conjunctive use of surface and groundwater" (ibid: s 15 (1)). Groundwater security plans are adopted by the appropriate authority and valid for five years; they must then be revalidated or amended.

3.4 Regulation of Use

The Groundwater Model Bill, 2011 is based on an understanding that different groundwater uses need to be regulated differently, something that was not done earlier. It starts by giving a general framework for the prioritisation of groundwater uses to guide authorities in the regulatory decisions they take (ibid: s 10). The first priority is meeting the right to basic water for rural and urban residents. Beyond this, two categories of uses are defined: primary uses include direct use of groundwater for livelihoods, including agriculture and non agriculture-based livelihoods and municipal use, including public facilities for recreation; secondary uses include commercial activities, including power generation, industry and large-scale commercial farms and private facilities for recreation.

The Groundwater Model Bill, 2011 first recognises that groundwater users also have a series of duties linked to their use. These include avoiding waste or contamination of groundwater, conservation through appropriate agricultural and industrial practices and measures to replenish or recharge groundwater (ibid: s32). The Groundwater Model Bill, 2011 also calls for water harvesting and catchment conservation, as well as recycling and reuse of groundwater (ibid: ss 33 and 34).

Beyond these general stipulations, the Groundwater Model Bill, 2011 regulates separately some of the main groundwater uses. Concerning basic water, the Groundwater Model Bill, 2011 specifies some of the elements of the right to water (ibid: s 36). These include a reassertion of the universality of the entitlements contained in the right in a context of non-discrimination. It also includes a specific provision making drinking water standards existing in different non-binding forms binding on drinking water supply agencies extracting groundwater.

With regard to the use of groundwater for livelihoods and irrigation, the starting point is that every person is entitled to use groundwater for their livelihood needs (ibid: s 37(1)). The Groundwater Model Bill, 2011 further recognises that the "livelihood pattern and the resultant needs should be incorporated in groundwater security plans" (ibid: s 37 (2)). At the same time, there is no absolute entitlement and in case of severe drought or where the area has been declared a Groundwater Protection Zone 2, limits may be imposed for restricting water use (ibid: s 37 (3)). In the case of a Groundwater Protection Zone 2, where water-intensive cash crops are grown, an undertaking shall be obtained for a change from water-intensive crops.

In the case of industrial, commercial and other bulk uses of groundwater, including major or medium irrigation projects, the Groundwater Model Bill, 2011 provides for a system of permits to abstract groundwater (ibid: ss38 and 37(4)). These permits can be granted to applicants fulfilling the conditions laid down with the exception of Groundwater Protection Zones 1 where permits cannot be granted. The Groundwater Model Bill, 2011 also provides that industrial or bulk groundwater use shall be priced and a water rate shall be charged. Funds collected through water rates are to be used for groundwater conservation and augmentation activities (ibid: s 42).

3.5 Effective Implementation

The Groundwater Model Bill, 2011 includes a series of provisions that seek to ensure the smooth and effective implementation of its substantive stipulations. A separate chapter is devoted to social and environment impact assessment, transparency and accountability. This builds largely on existing legal instruments, giving them a specific groundwater focus.

This is, for instance, the case with regard to impact assessment. The Groundwater Model Bill, 2011 builds on the Environmental Impact Assessment Notification, 2006 and defines impact assessment in a groundwater-specific context. It also adds a social impact assessment with a view to consider both aspects simultaneously. Environmental and social impact assessments are required at separate points in the Groundwater Model Bill, 2011. Thus, Section 10 provides that the use or appropriation of water for secondary purposes (following discussion on secondary uses), which is likely to have significant negative impacts on local sources of groundwater, shall be subject to an environmental and social impact assessment. Similarly, the permits to abstract groundwater for industrial use or infrastructure projects are granted on the basis of an impact assessment (ibid: s 39(4)).

The Groundwater Model Bill, 2011 also includes a duty to establish transparency systems. This builds on the Right to Information Act, 2005 and includes proactive mandatory disclosure, the right to inspect all documents and offices, and ensuring the transparency of the decision-making processes (ibid: ss 45 and 46). The Groundwater Model Bill, 2011 also includes a provision for social audits to be conducted every 12 months. This is to be linked to other social audits mandated under other laws or guidelines (ibid: s 47).

With regard to dispute resolution, the Groundwater Model Bill, 2011 starts by encouraging mediation and conciliation. Where disputes need to go through a formal process, the Groundwater Model Bill, 2011 sets up a framework that seeks to keep the process as close as possible to litigants while ensuring that the persons in charge are able to comprehend the technical issues that may arise. It does so through the provision of groundwater grievance redressal officers at the block

level who must have experience and qualification in the field of law or hydrogeology or science and technology or social service or management or water policy or human rights or public administration (ibid: s 53). In addition, the Groundwater Model Bill, 2011 also provides for a Nyaya Mitra holding a bachelor's degree in law at the district level to assist groundwater grievance redressal officers in discharging their duties (ibid: s 55).

Groundwater grievance redressal officers are given jurisdiction over all complaints arising within the area for which they have been appointed. They are given the same powers and obligations as vested in a civil court. Appeals from the groundwater grievance redressal officers can be preferred to the Gram Nyayalya set up under the Gram Nyayalayas Act, 2008 in rural areas and before the sub-court in urban areas.

4 Conclusions

The Groundwater Model Bill, 2011 provides a basis for rethinking groundwater regulation. It is appropriately framed as a model bill that needs to be tailored to the needs and circumstances of individual states. This also fits with the fact that it is states that have legislative competence for regulating water.

The existence of a new model that can be used by states for drafting legislation is a welcome step forward. It provides a template that incorporates various things that states must do because they are part of the legal framework applicable throughout the country and provides the flexibility to adopt substantive, procedural and institutional provisions to the specific legal framework in place at the state level.

The theoretical and constitutional flexibility that exists is a positive element of a federal democracy. At the same time, the history of the Model Bill, 1970/2005 does not indicate that the possibility to adapt a model bill to regional needs is necessarily taken up in every case. It is thus essential to ensure that the Groundwater Model Bill, 2011 does not follow the same path. This will require doing several key things in each state. First, very little work has been done to analyse the way in which traditional rules have been applied in practice either at the local or state level. The main source of information is court judgments, which only provide a snapshot of the reality on the ground. Second, there has been little interest in the groundwater laws based on the Model Bill, 1970-2005. A much more in-depth understanding of the reasons underlying the lack of implementation, the successes and the failures are necessary to ensure that the next model builds on existing experience. Third, this analytical process must be followed by the involvement of all groundwater users in turning the model bill into legislation at the state level. This includes an effective participation from the panchayat/ward to the state level. This is not specific to groundwater but requires strong reaffirmation following the adoption of some water laws without sufficient participation in general, and even without sufficient debate in the legislative assembly.

Groundwater is now the main source of water for all main water uses and needs to be given the policy attention it deserves. The fact that it is a politically sensitive topic because any reform will affect some powerful constituencies cannot be an excuse anymore for lack of action. Inaction only increases existing inequalities in access to groundwater by progressively reinforcing the power of bigger landowners at the expense of other water users. Further inaction has a price that will be borne by future generations since use beyond yearly replenishment is by definition an "unsustainable" use of groundwater in the longer term. The fact that this may be beyond the time horizon of the average office holder cannot be an excuse for delaying action until it is too late.

NOTES

1 Planning Commission, An Approach to the Twelfth Five-Year Plan (2012-17).

2 Planning Commission, "Ground Water Management and Ownership", Report of the Expert Group (2007).

3 Indian Easements Act, 1882, Section 7.

4 *George Chasemore vs Henry Richards* (1859), VII House of Lords Cases 349 (House of Lords, 27 July 1859).

5 *Acton vs Blundell* (1843), 12 Meeson and Welsby 324 (Court of Exchequer Chamber, 1 January 1843).

6 *Chasemore vs Richards*, op cit.

7 *Grand Junction Canal Company vs Shugar* (1870-71) LR 6 Ch App 483 (Court of Appeal in Chancery, 17 January 1871).

8 *Unde Rajah Raja Sri Raja Velugoti Sri Rajagopala Krishna Yachendrala Varu Bahadur, K CIE Maharajah of Venkatagiri vs Secretary of State for India in Council* (1915) 28 MLJ 98 (High Court of Madras, 19 October 1914).

9 *Malyam Patel Basavana Gowd (dead) vs Lakka Narayana Reddi* AIR 1931 Mad 284 (High Court of Madras, 23 October 1930).

10 *Babaji Ramling Gurav vs Appa Vithavja Sutar* AIR 1924 Bom 154 (High Court of Bombay, 23 February 1923).

11 Model Bill 2005:S 6(5)(a) only provides that the purpose has to be taken into account while Section 6(5)(h), which is the only sub-section referring to drinking water, considers it as an indirect factor.

12 *Gowd (dead) vs Reddi* in *Grand Junction Canal Company vs Shugar*, op cit.

13 *Gurubilli Sreeramulu vs Joga Verrodu* 2001(3) ALD 367 (High Court of Andhra Pradesh at Hyderabad, 24 January 2001).

14 Planning Commission, "An Approach to the Twelfth Five Year Plan (2012-17)", para 5.18. Similarly, see Department of Drinking Water and Sanitation, "Rural Drinking Water, Strategic Plan 2011-22 – Ensuring Drinking Water Security in Rural India", 5(4)(2).

15 Example, Asian Development Bank, Water Operational Plan 2011-20 (2011).

16 Punjab Preservation of Subsoil Water Act, 2009 and Haryana Preservation of Sub-Soil Water Act, 2009.

17 Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011, available at http://www.planningcommission.nic.in/aboutus/committee/wrkgrp12/wr/wg_model_bill.pdf.

18 *MC Mehta vs Kamal Nath* (1997) 1 SCC 388 (Supreme Court, 1996).

19 *State of West Bengal vs Kesoram Industries* (2004) 10 SCC 201 (Supreme Court, 2004).

20 On the principle of subsidiarity, Groundwater Model Bill, 2011, Section 5.

21 *Subhash Kumar vs State of Bihar* AIR 1991 SC 420 (Supreme Court, 1991).

22 Maharashtra Water Resources Regulatory Authority Act, 2005, s 11(i)(i).

23 Groundwater Model Bill, 2011 S 3(1)b defines appropriate authority as "the lowest possible public authority, including gram sabhas, gram panchayats, block panchayats, district panchayats, ward sabhas, municipal authorities and the State Government".

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